

ecoAIR⁺

Monobloc air source heat pumps



ecoAIR⁺

Monobloc Inverter air source

The ecoAIR⁺ range is the Ecoforest range of air-to-water heat pumps. These heat pumps use Inverter technology and are also capable of offering all the services required in a HVAC system in an integrated way: DHW, Heating, Pool and Cooling.



All ecoAIR⁺ heat pumps make use of Inverter technology, which allows them to modulate their power in order to adapt to the thermal demands of the installation with the highest efficiency. This translates into a very considerable reduction in electrical consumption and great savings. The ecoAIR⁺ EVI heat pumps make a unique use of EVI technology to guarantee unique performances in any operating condition, and the ecoAIR⁺ PRO heat pumps use a natural refrigerant, being the only propane monobloc aérothermal heat pumps that have modulation ranges greater than 80%. Thanks to the technology and control strategies developed by Ecoforest, the installation of ecoAIR⁺ heat pumps in combination with the HK and HK-Compact indoor units also becomes simpler, more compact and cheaper than those of other heat pumps on the market, since it allows to dispense with certain components that would be necessary in traditional heat pump installations.

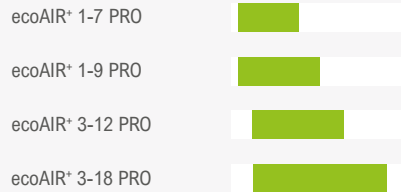


ecoAIR+ PRO

Residential range



Power ranges



Monobloc heat pump



Services



DHW



Heating



Cooling



Pool

Indoor units

| CM | HK-EH | HK-EH-S | HK-Compact-EH | HK-Compact-EH-S |
|------------|---------------------------|-----------------------------------|-------------------------------|-----------------------------------|
| Controller | Controller | Controller | Controller | Controller |
| Display | Display | Display | Display | Display |
| | Filling kit & filter | Filling kit & filter | Filling kit & filter | Filling kit & filter |
| | DHW 3-way valve | DHW 3-way valve | DHW 3-way valve | DHW 3-way valve |
| | Support electrical heater | Support electrical heater | Support electrical heater | Support electrical heater |
| | | Heat exchanger & circulation pump | 165l stainless steel DHW tank | Heat exchanger & circulation pump |
| | | | | 165l stainless steel DHW tank |
| | | | | Expansion vessel & safety valve |

Inverter technology
 Power ranges: 1-7 kW / 1-9 kW / 3-12 kW / 3-18 kW
 Natural refrigerant: R290
 Hot water production temperatures up to 75°C
 Domestic hot water production
 Heating and pool production
 Integrated active cooling production
 Modulating speed fan
 Internet connection through the ecoSMART Easynet
 Integrated photovoltaic hybridisation
 Single-phase (230V) or three-phase (400V) power supply

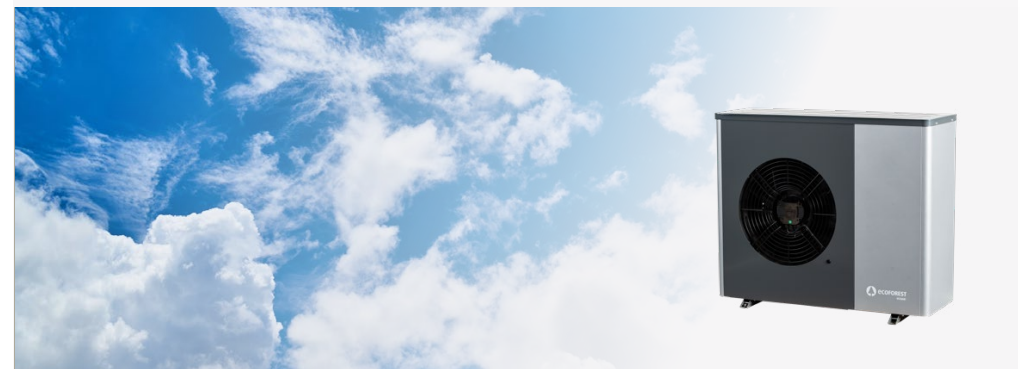
Unique performances



DHW production and Heating



Cooling



ecoAIR+ 3-12 PRO



- Modulating thermal power control within a wide range (17-100%) and modulating flow rate control of the production circuit (20-100%).
- Natural refrigerant R290 : GWP 3.
- Inverter technology and scroll compressor.
- Compact design including the production circulation pump in the outdoor unit. Hydraulic connection within the outdoor unit and the indoor unit.
- Integrated management of up to 3 different emission temperatures, 2 buffer tanks (heating and cooling), 1 DHW tank, 1 pool and hourly control of DHW recirculation.
- Integrated management of simultaneous heating/cooling emission, according to scheme.
- Integrated management of external On/Off or modulating auxiliary systems, such as electrical heaters, On/Off boilers or modulating boilers.
- Integrated active cooling.
- Selection of the indoor unit depending on the installation needs.
- Single-phase and Three-phase versions available.
- Integrated photovoltaic hybridisation.
- Integrated energy meters to measure the electrical consumption, the heating/cooling thermal power, the COP and the monthly and annual SPF.

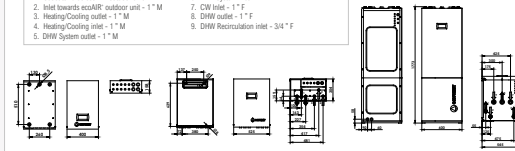
| SPECIFICATIONS ecoAIR+ 3-12 PRO | | UNITS | OUTDOORS |
|---------------------------------|--|-------------------|---------------------|
| APPLICATION | Place of installation | - | Outdoors |
| | Type of brine system ¹ | - | Air source |
| | DHW, Heating and Pool | - | ✓ |
| | Integrated Active cooling | - | ✓ |
| PERFORMANCE | Modulation range of the compressor | % | 17 to 100 |
| | Heating power output ² , A7W35 | kW | 3,0 to 11,0 |
| | COP ³ , A7W35 | - | 4,8 |
| | Heating power output ² , A7W55 | kW | 3,0 to 10,0 |
| | COP ³ , A7W55 | - | 3,0 |
| | Active cooling power output ² , A35W7 | kW | 1,8 to 8,6 |
| | EER ² , A35W7 | - | 3,1 |
| | Max. DHW temperature without / with support ⁵ | °C | 70 / 80 |
| OPERATION LIMITS | Noise power emission level ⁶ | db | 57 |
| | Energy label / ηs / SCOP W35 average climate control | - | A+++ / 158% / 3,93 |
| | Energy label / ηs / SCOP W55 average climate control | - | A+++ / 129% / 3,21 |
| | Distribution / Set heating outlet temperature range | °C | 10 to 70 / 20 to 70 |
| | Distribution / Set cooling outlet temperature range | °C | 5 to 30 / 7 to 30 |
| | Outdoor temperature range | °C | -22 to 50 |
| | Minimum / Maximum refrigerant circuit pressure | bar | 0,5 / 25,5 |
| | Production circuit pressure | bar | 0,5 to 3,0 |
| WORKING FLUIDS | R290 Refrigerant load | kg | 0,85 |
| | Compressor oil type / load | kg | HXL4467 / 0,74 |
| | Air flow (75% fan) | m ³ /h | 3510 |
| CONTROL ELECTRICAL DATA | 1/N/PE 230 V / 50-60 Hz ⁸ | - | ✓ |
| | Maximum recommended external protection ⁹ | - | C5A |
| | Transformer primary circuit fuse | A | 0,5 |
| ELECTRICAL DATA: SINGLE-PHASE | Transformer secondary circuit fuse | A | 2,5 |
| | 1/N/PE 230 V / 50-60 Hz ⁸ | - | ✓ |
| | Maximum recommended external protection ⁹ | - | C25A |
| | Maximum consumption ² , A7W35 | kW / A | 2,8 / 13,8 |
| | Maximum consumption ² , A7W55 | kW / A | 3,5 / 17,7 |
| | Minimum / Maximum starting current ⁷ | A | 4,5 / 5,4 |
| ELECTRICAL DATA: THREE-PHASE | Correction of cosine φ | - | 0,93 / 1 |
| | 3/N/PE 400 V / 50-60Hz ⁸ | - | ✓ |
| | Maximum recommended external protection ⁹ | - | C16A |
| | Maximum consumption ² , A7W35 | kW / A | 2,8 / 4,6 |
| | Maximum consumption ² , A7W55 | kW / A | 3,5 / 5,9 |
| | Minimum / Maximum starting current ⁷ | A | 1,5 / 1,8 |
| DIMENSIONS/WEIGHT | Correction of cosine φ | - | 0,93 / 1 |
| | Height x width x depth | mm | 973x1150x475 |
| | Empty weight (without assembly) | kg | 134 |

1. Outdoor air-to-water monobloc unit.
 2. In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.
 3. Considering production flow rate in compliance with EN 14511.
 4. Considering a heat slope from 20°C to 50°C in absence of consumption.
 5. Considering support provided by the emergency electrical heater.
 6. In compliance with EN 12102.
 7. Starting current depends on the working conditions of the hydraulic circuits.
 8. The admissible voltage range for proper operation of the heat pump is ±10%.
 9. Maximum consumption can vary significantly according to working conditions, or if the compressor's operation range is restricted. Consult the technical service manual for more detailed information.
 10. Certification in process.

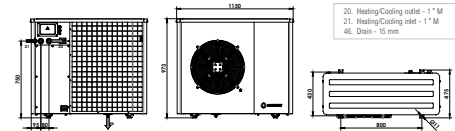
Dimensions and hydraulic connections

Indoor units

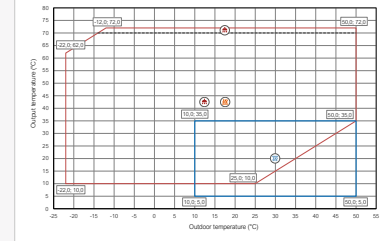
1. Outlet towards ecoAIR+ outdoor unit - 1" M
2. Inlet towards ecoAIR+ outdoor unit - 1" M
3. Heating/Cooling outlet - 1" M
4. Heating/Cooling inlet - 1" M
5. DHW System outlet - 1" M
6. DHW System inlet - 1" M
7. CW Inlet - 1" F
8. DHW outlet - 1" F
9. DHW Recirculation inlet - 3/4" F



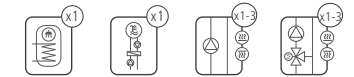
Outdoor unit - ecoAIR+



Operational chart

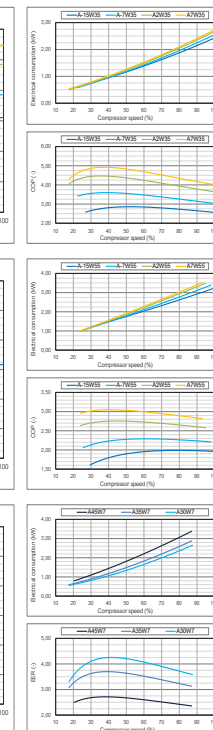
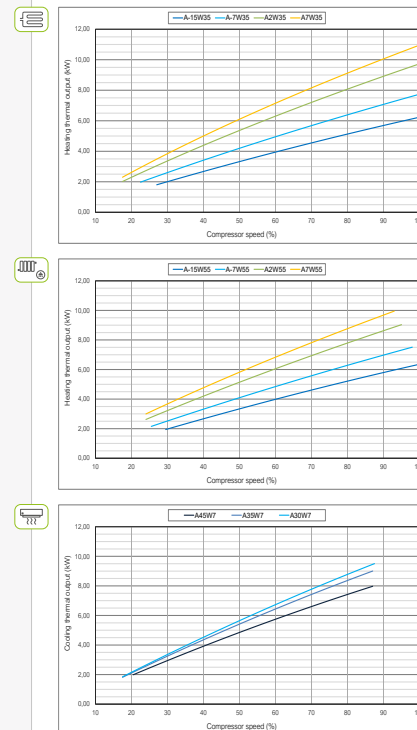


Installation management



Performance curves

Thermal performance



Hydraulic performance

